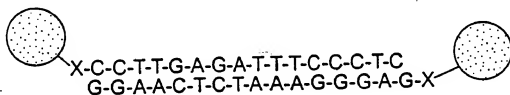
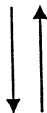
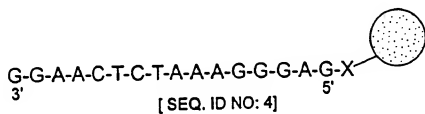
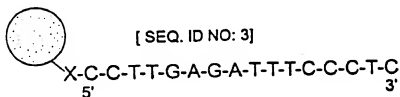


FIG. 1



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FIG.2

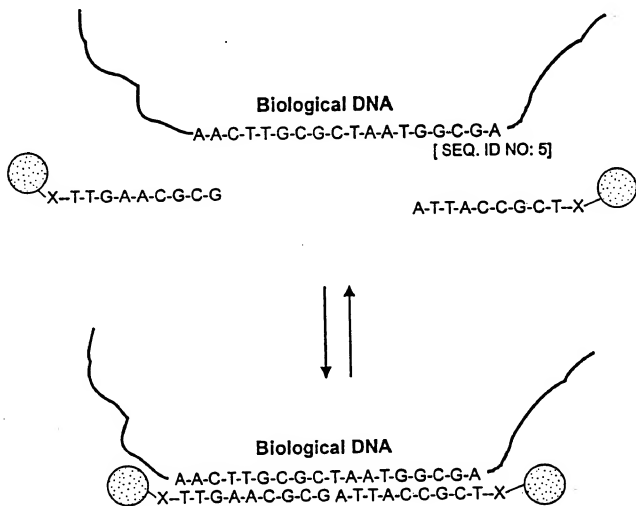
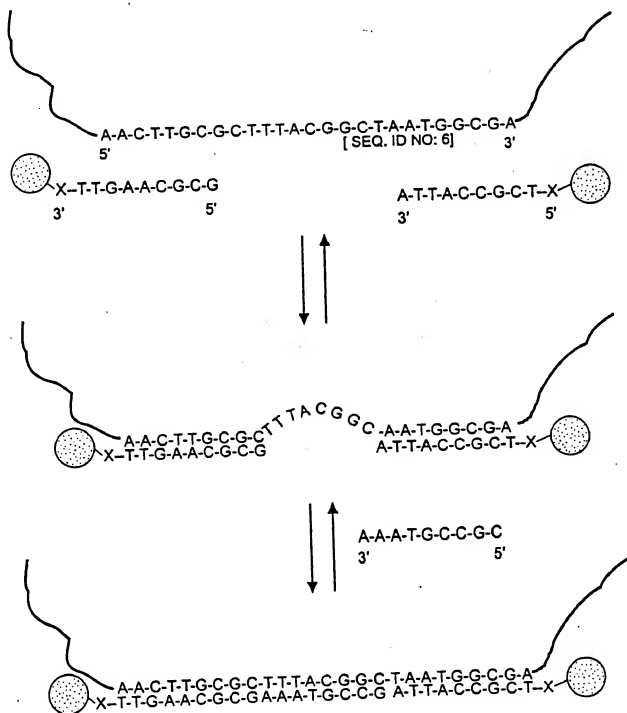


FIG. 3.



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FIG. 4

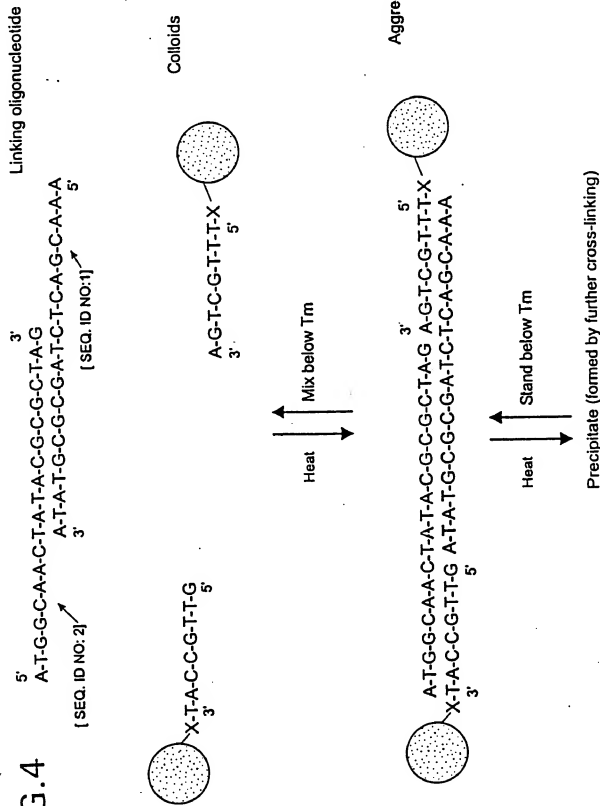
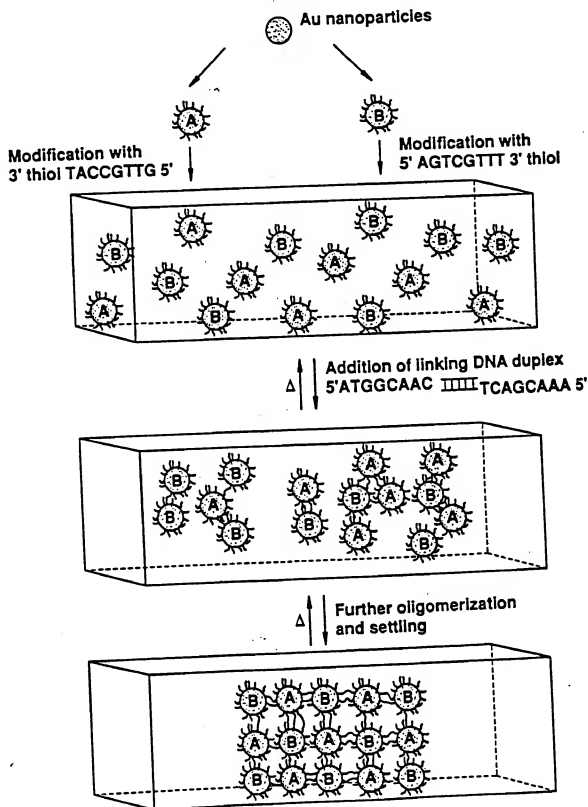


FIG.5



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FIG.6A FIG.6B FIG.6C

FIG. 7

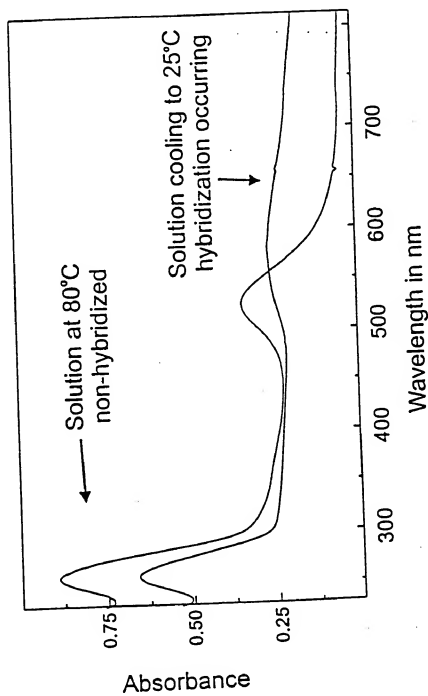


FIG. 8A

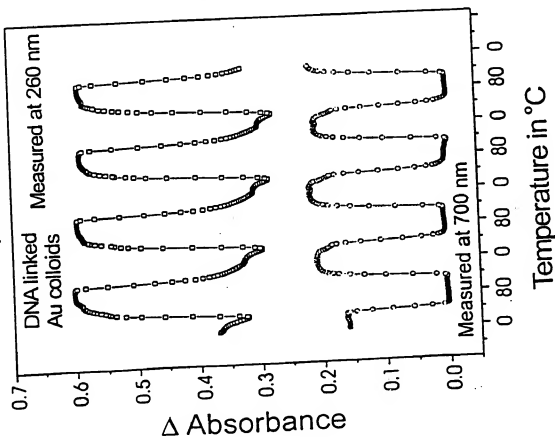
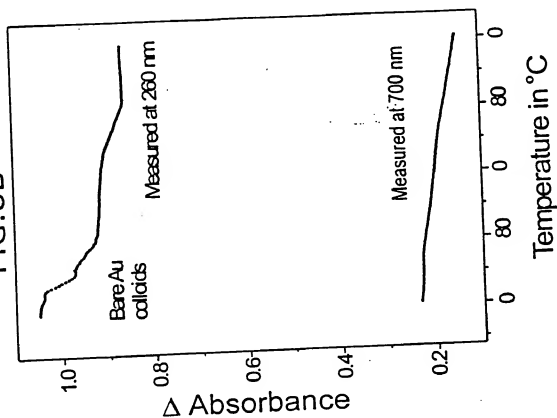


FIG. 8B



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FIG.9A



FIG.9B

09973638.101001

FIG.10

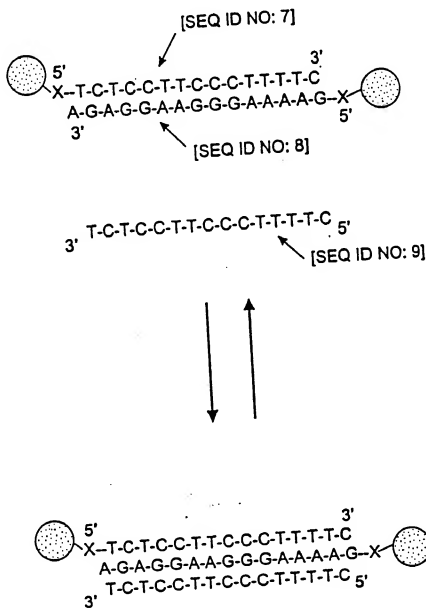


FIG. 11

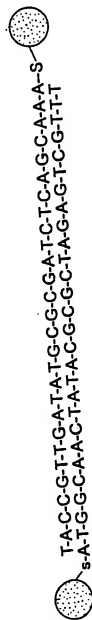
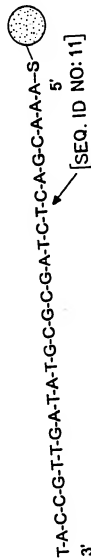
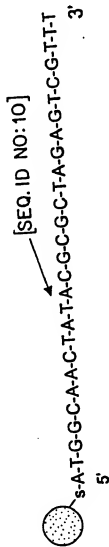


FIG. 12A

Complementary Target

[SEQ. ID NO:12]

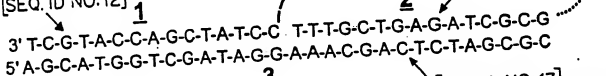


FIG. 12B

Probes without Target

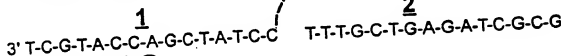


FIG. 12C

Half Complementary Target

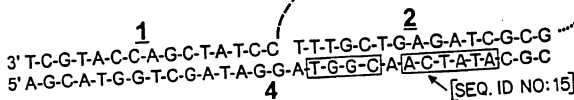


FIG. 12D

Target - 6 bp

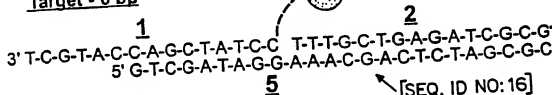


FIG. 12E

One bp Mismatch

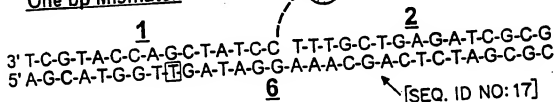


FIG. 12F

Two bp Mismatch

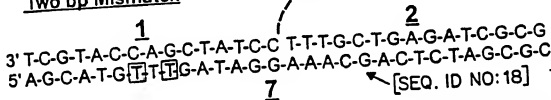
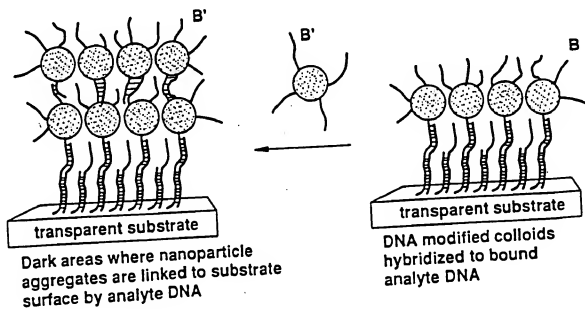
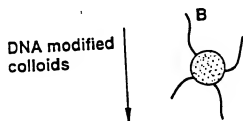
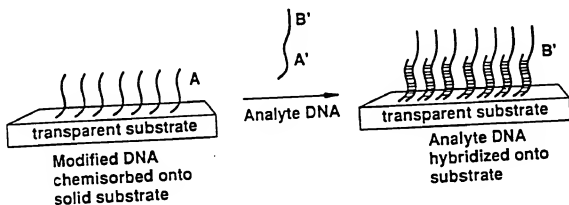
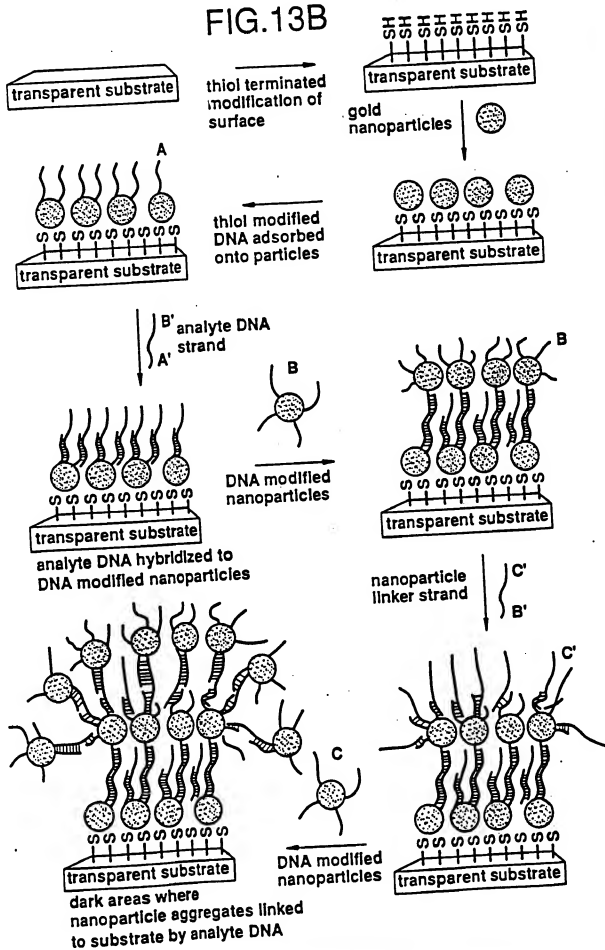


FIG.13A



09973638-101001

FIG.13B



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FIG.14A

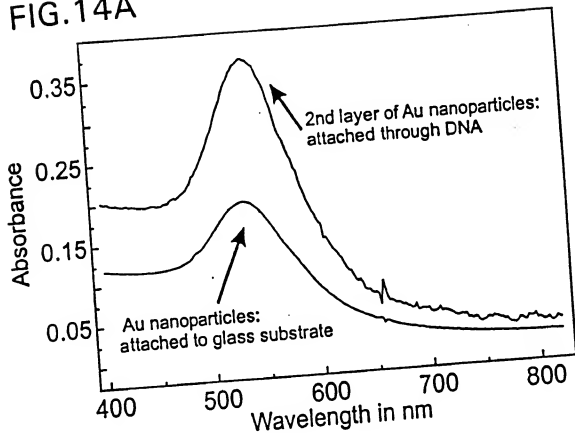


FIG.14B

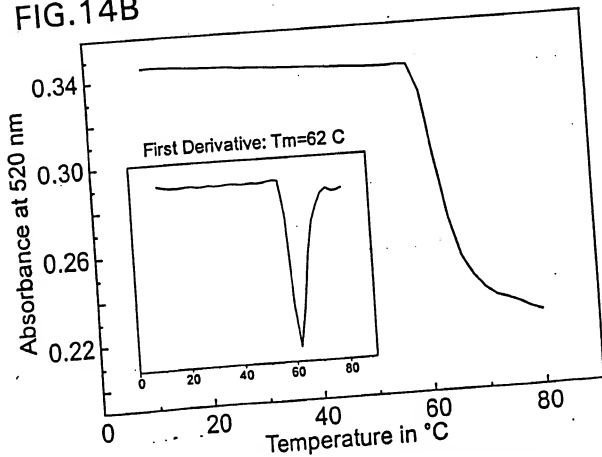


FIG15A

Probes with No Target

SEQ ID NO:19

SEQ ID NO:20

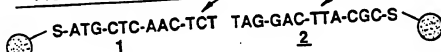


FIG15B

Half-Complementary Target

SEQ ID NO:21

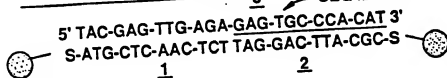


FIG15C

Complementary Target

Tm=53.5°C

SEQ ID NO:22

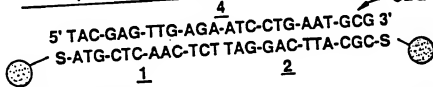


FIG15D

ONE Base-Pair Mismatch at Probe Head

Tm=50.4°C

SEQ ID NO:23

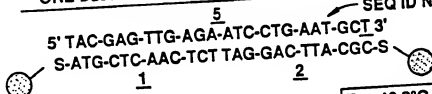


FIG15E

ONE Base-Pair Mismatch at Probe Tail

Tm=46.2°C

SEQ ID NO:24

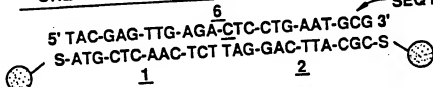


FIG15F

ONE Base Deletion

Tm=51.6°C

SEQ ID NO:25

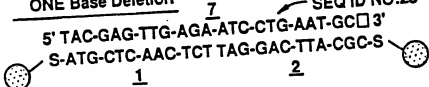
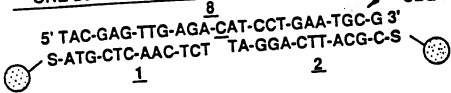


FIG15G

ONE Base-Pair Insertion

Tm=50.2°C

SEQ ID NO:26



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FIG. 16A

24 Base Template

5' TAC-GAG-TTG-AGA-ATC-CTG-AAT-GCG 3'
 -S-ATG-CTC-AAC-TCT TAG-GAC-TTA-CGC-S -

1

2

FIG. 16B

48 Base Template with Complementary 24 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-ATC-CTG-AAT-GCG 3'
 -S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT TAG-GAC-TTA-CGC-S -

1

2

FIG. 16C

72 Base Template with Complementary 48 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-TAT-ATT-GGA-CGC-TTT-ACG-GAC-AAC-ATC-CTG-AAT-GCG 3'
 -S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT-ATA-TAA-CCT-GGC-AAA-TGC-CTG-TTG TAG-GAC-TTA-CGC-S -

1

2

FIG.17A

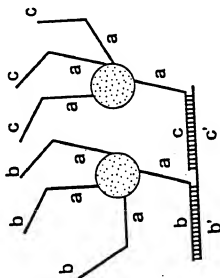


FIG.17B

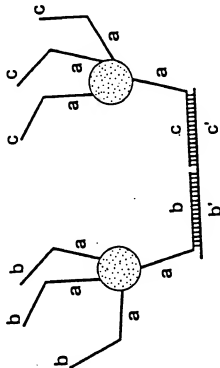


FIG.17C

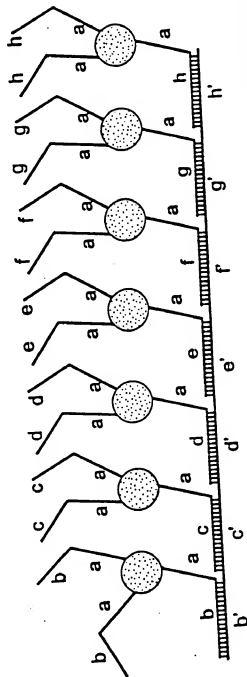


FIG.17D

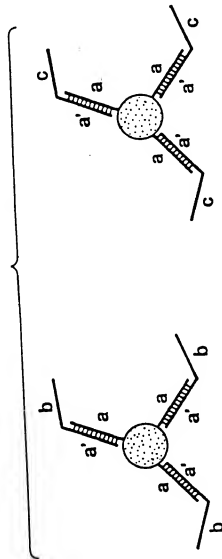


FIG.17E

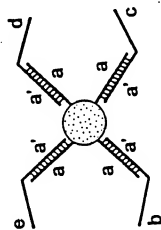
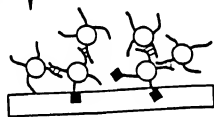
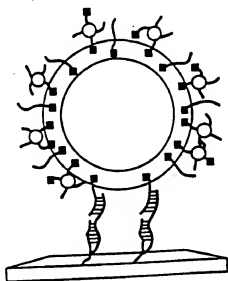
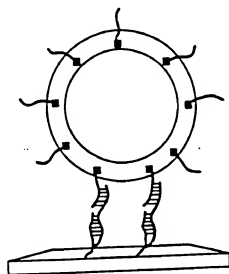


FIG.18



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FIG.19A

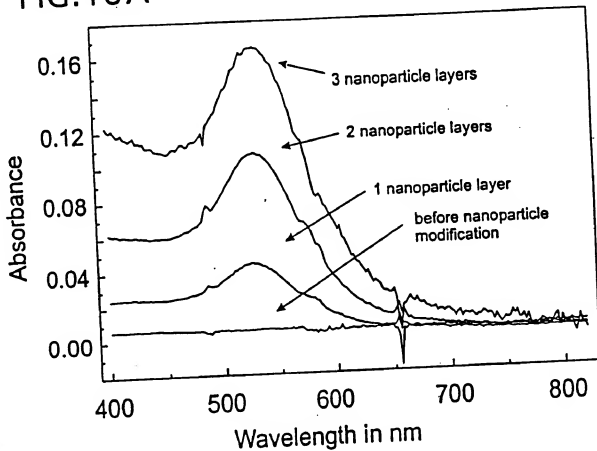


FIG.19B

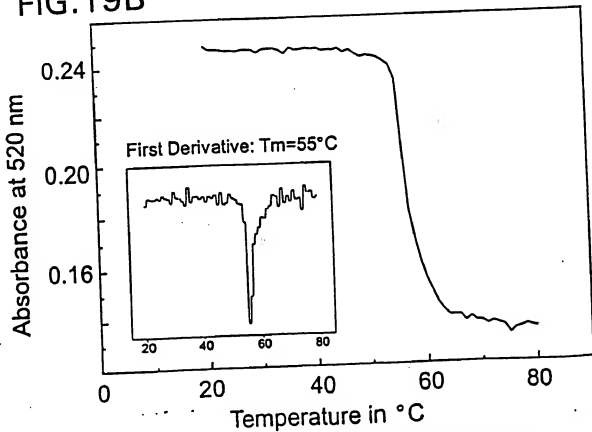


FIG.20A

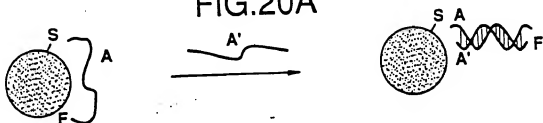
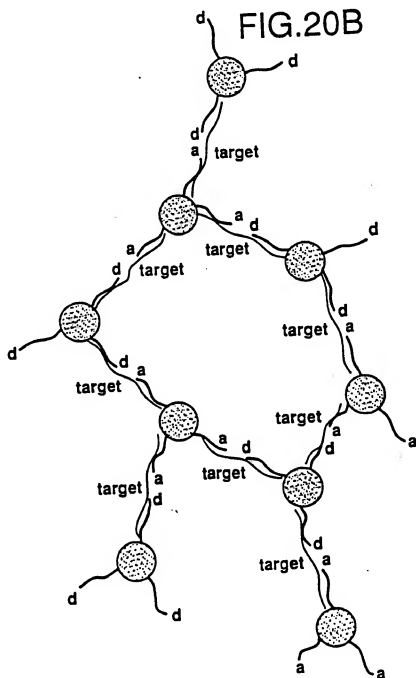


FIG.20B



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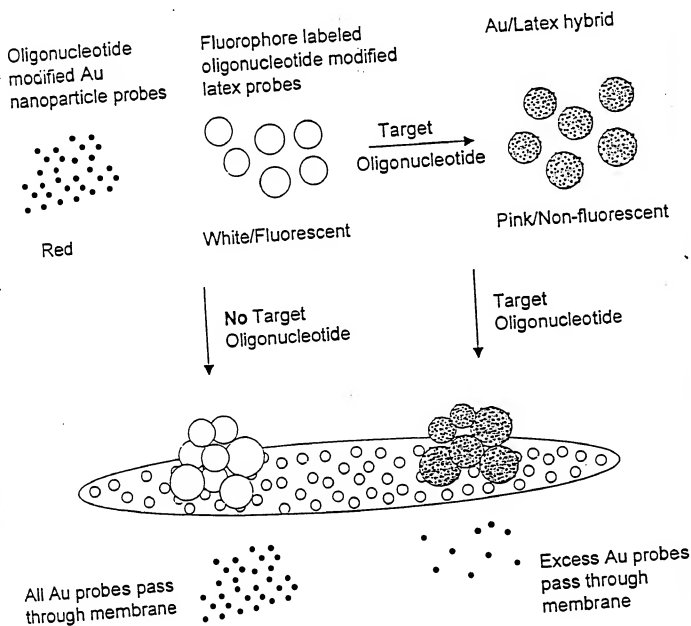
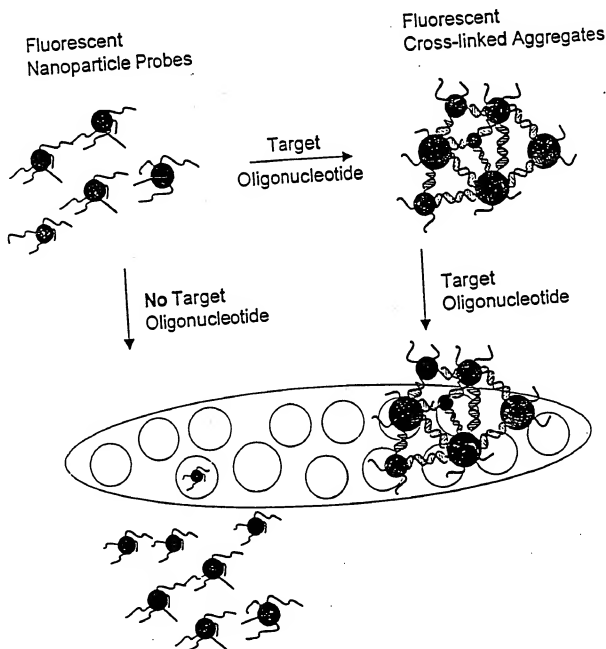


FIGURE 21

FIGURE 22



The fluorescent nanoparticle probes pass through the membrane

The fluorescent cross-linked aggregates are retained by the membrane

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Anthrax PCR Product

5'G GCG GAT GAG TCA GTA GTT AAG GAG GCT CAT AGA GAA GTA ATT AAT
3'C CGC CTA CTC AGT CAT CAA TTC CTC CGA GTA TCT CTT CAT TAA TTA

TCG TCA ACA GAG GGA TTA TTG TTA AAT ATT GAT AAG GAT ATA AGA AAA
AGC AGT TGT CTC CCT AAT AAC AAT TTA TAA CTA TTC CTA TAT TCT TTT
ATA TTA TCC AGG GTT ATA TTG TAG AAA TTG AAG ATA CTG AAG GGC TT 3'
TAT AAT AGG TCC CAA TAT AAC ATC TTT AAC TTC TAT GAC TTC CCG AA 5'

141 mer Anthrax PCR product [SEQ ID NO:36]

3' CTC CCT AAT AAC AAT
[SEQ ID NO:37]

3' TTA TAA CTA TTC CTA
[SEQ ID NO:38]

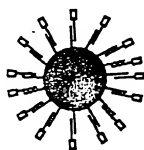
Oligonucleotide-Nanoparticle Probes

Blocker Oligonucleotides

3' C CGC CTA CTC AGT CAT CAA TTC CTC CGA GT	[SEQ ID NO:39]
3' A TCT CTT CAT TAA TTA AGC AGT TGT	[SEQ ID NO:40]
3' TAT TCT TTT TAT AAT AGG TCC CAA TAT	[SEQ ID NO:41]
3' AAC ATC TTT AAC TTC TAT GAC TTC CCG AA	[SEQ ID NO:42]

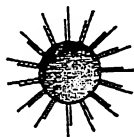
FIGURE 23

09973638.101001



Satellite Probe

Target



Detection Signal

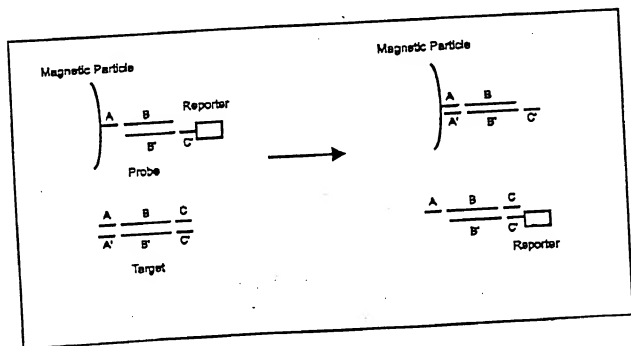


FIGURE 24

09973638-101001

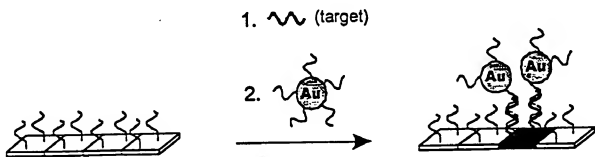


FIGURE 25A

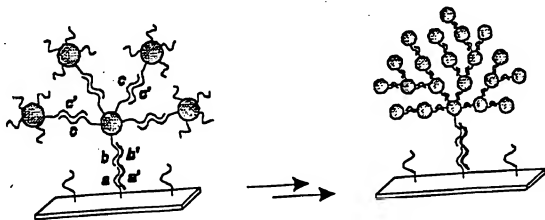
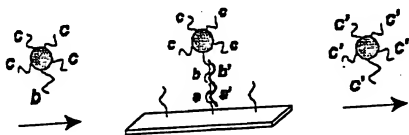
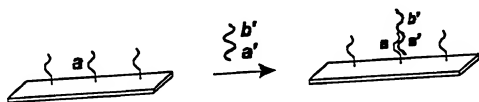


FIGURE 25B

09973638.101001

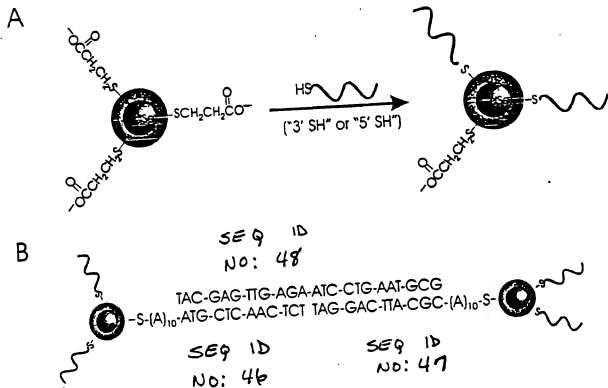


FIGURE 26

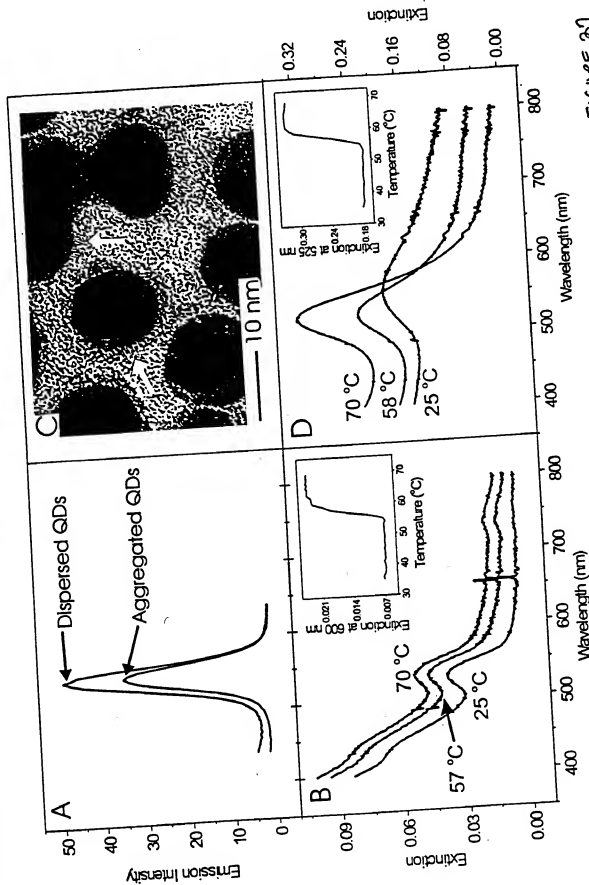


FIGURE 2

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Y00101-859E/660

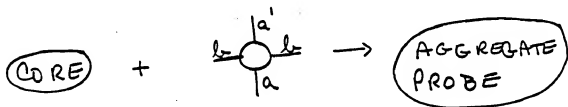
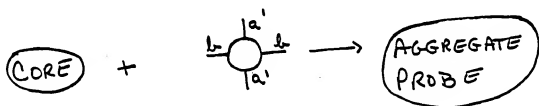
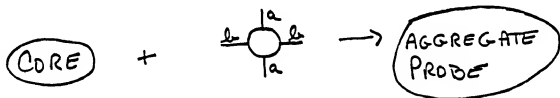
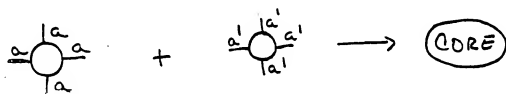


FIGURE 28A

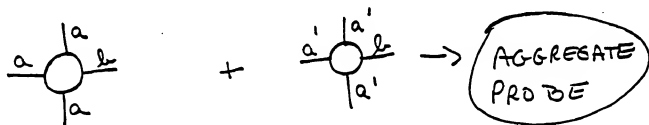


FIGURE 28B

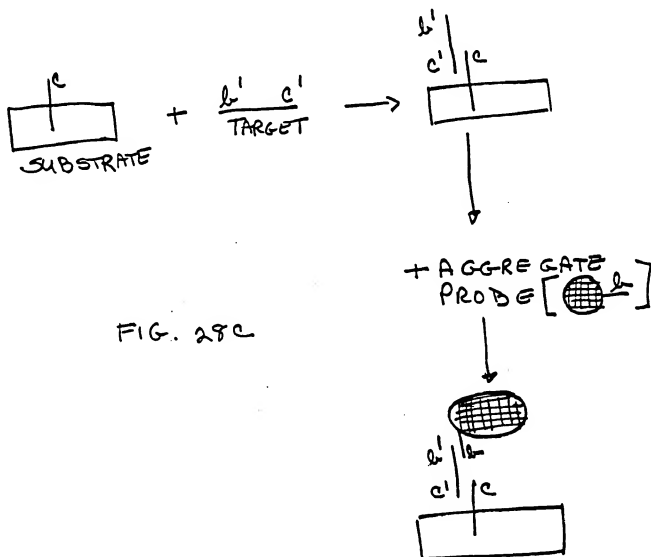


FIG. 28C

09973638.101004


 AGGREGATE
 PROBE

$+ \frac{b' \quad c'}{\text{TARGET}} + \text{c} \text{d}$

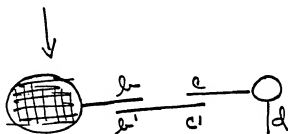

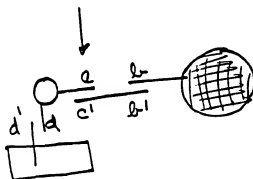


FIG. 28D

REMOVE EXCESS
 BY CENTRIFUGATION



$+ \text{d}'$
 SUBSTRATE



09973638.101001
10010101 869E/660

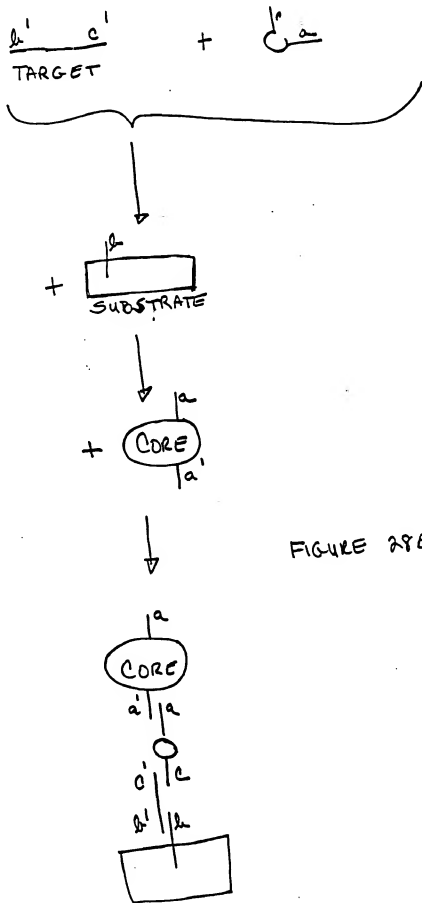


FIGURE 28E

FOOTOT-BE9E/660

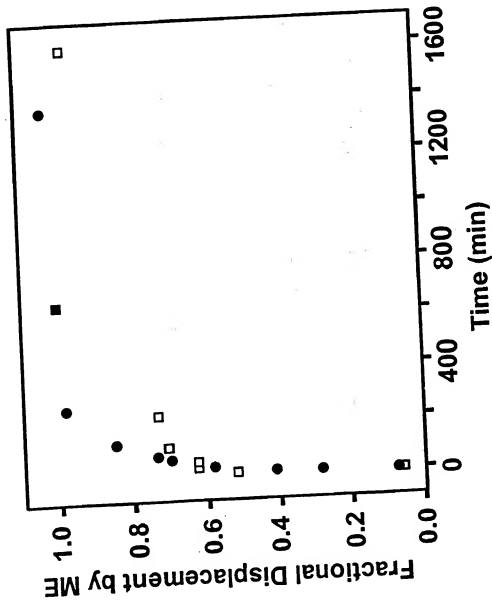


Figure 29

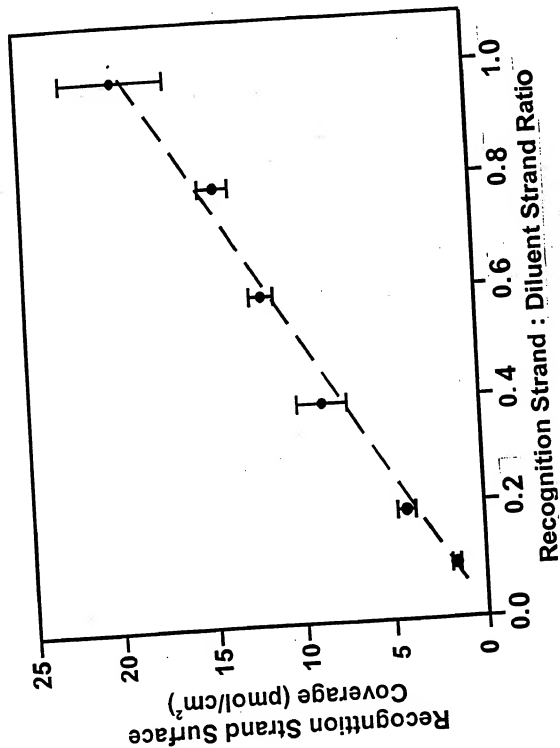


Figure 30

Y00101.8E9E7660

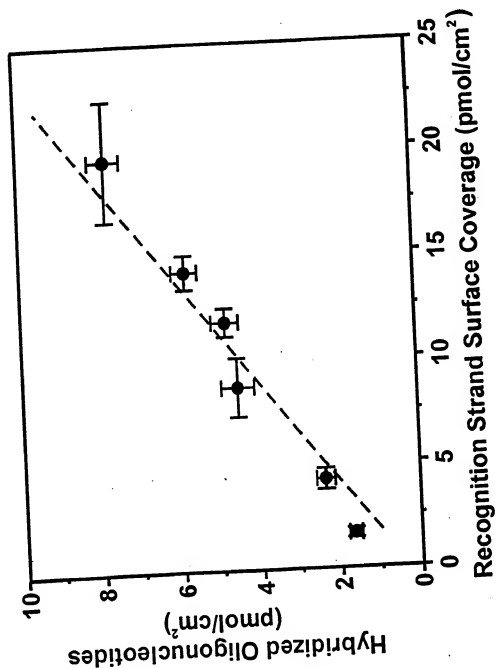


Figure 31

09973638-101001

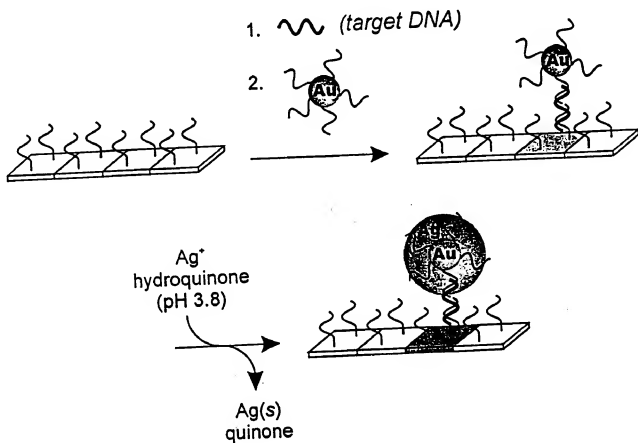
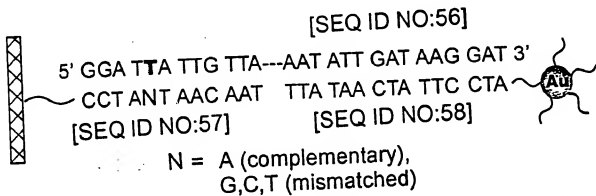


Figure 32

09973638.101001

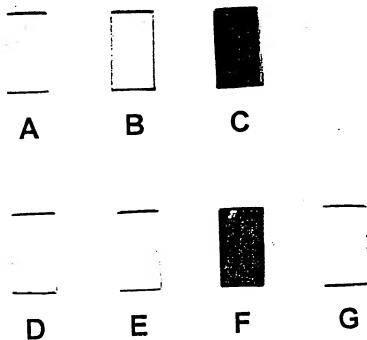


Figure 33

009073638.101001

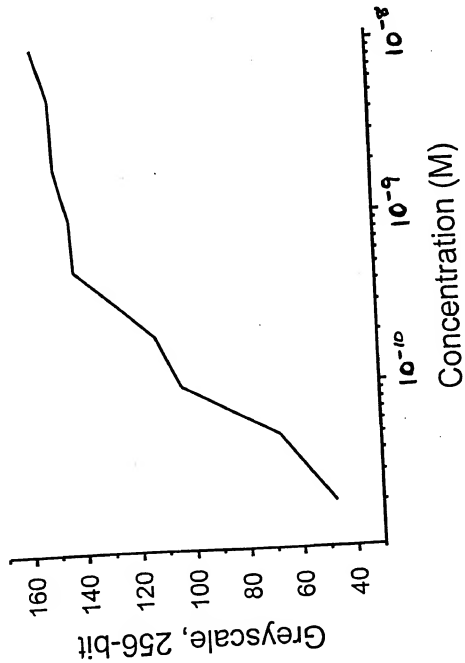


Figure 34

100101 8E9E/660

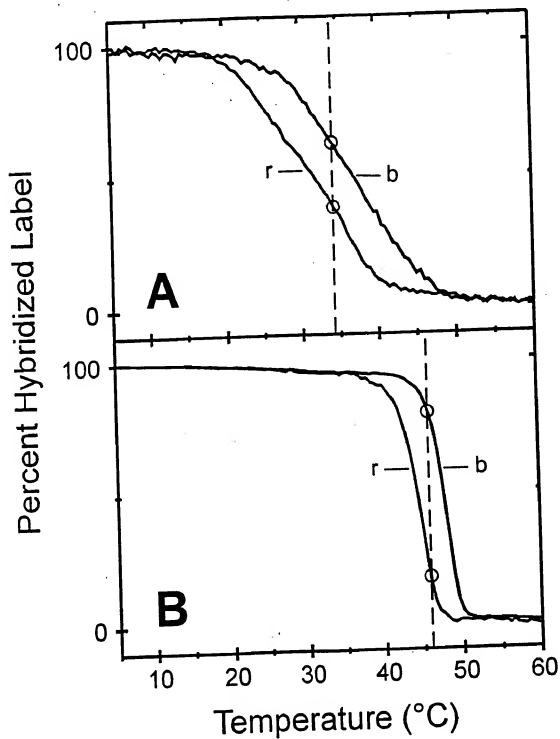


Figure 35

09973638-101001

FIG. 36A

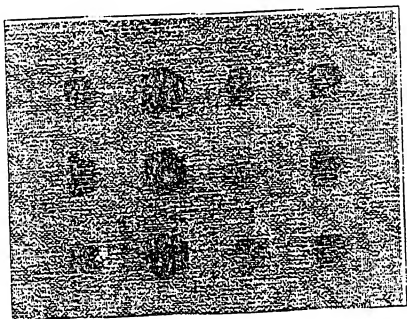
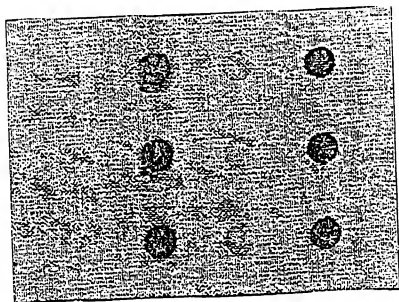


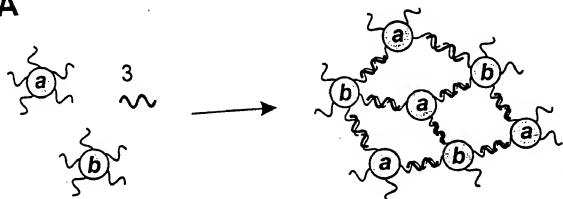
FIG. 36B



C A T G

09973638.101001

A



B

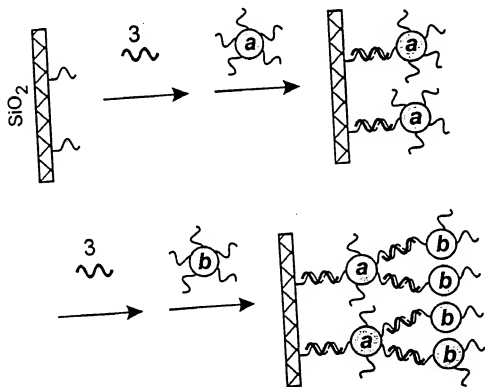


Figure 37

00973638.101001

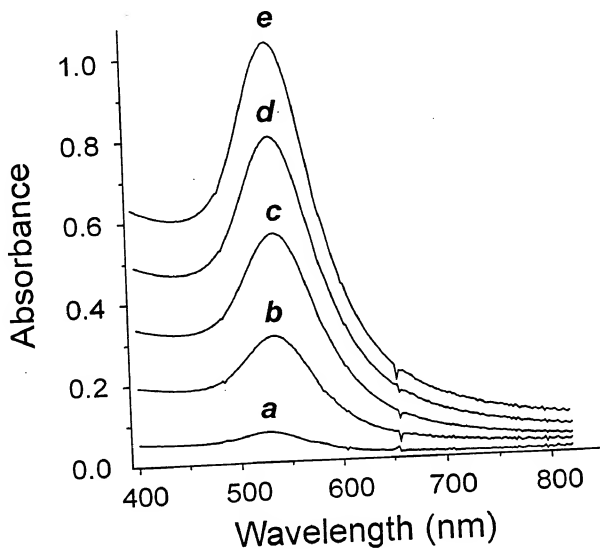


Figure 38A

00973638.101001
100101-88987660

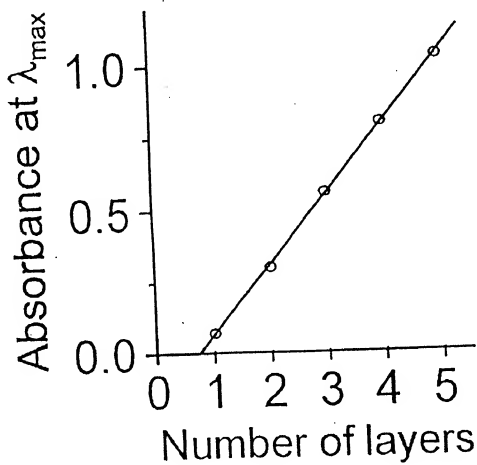


Figure 38B

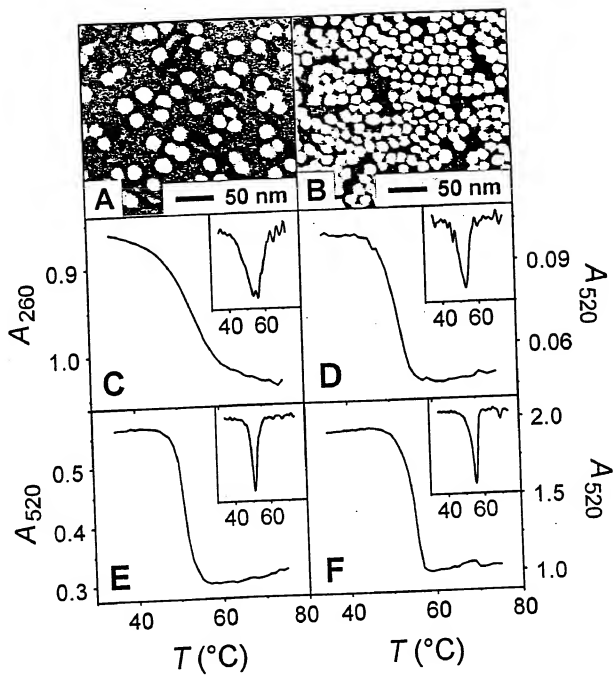


Figure 39

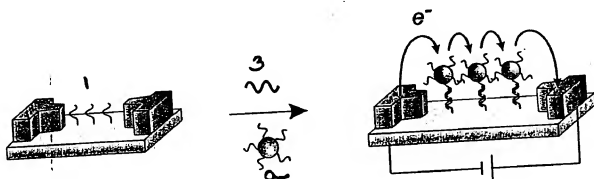
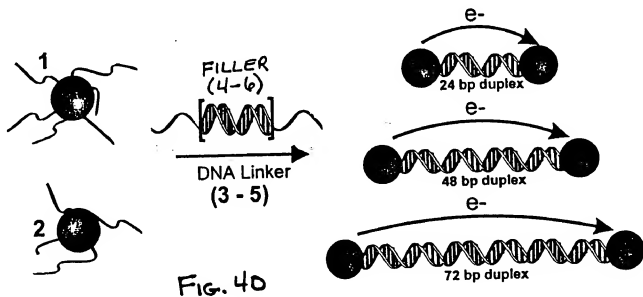


FIG. 41